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States Government

Department of Energy

Rocky Flats Field Office

Memorandum

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FITH S	X	X
CKEE M	X	X
RAMT B	X	X

JAN 31 1995

EG&G
ROCKY FLATS PLANT
CORRESPONDENCE CONTROL

ERMSA:FRL:08042


Subpart D Categorical Exclusion (RFFO/CX09-95)

Ralph G. Lightner, Director, Office of Southwestern Area Program, EM-45, HQ

Attached is a copy of RFFO/CX 09-95, Phase II RCRA Facility Investigation/Remedial

Investigation Site Characterization for Solar Evaporation Ponds (Operable Unit No. 4).

This categorical exclusion was recently approved by the Rocky Flats Field Office.


Mark N. Silverman
Manager

Attachment

cc w/Attachment:
R. Scott, EM-20, HQ
J. Ciocco, EM-453, HQ
J. Roberson, AMER. RFFO
F. Lockhart, ER, RFFO
P. Powell, EGD, RFFO
S. Howard, SAIC
P. Witherill, SAIC
S. Nesta, EG&G
S. Keith, EG&G
M. McKee, EG&G

RES. CONTROL	X	X
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Reviewed for Addressee
Corres. Control RFP

2-2-95 ROL
DATE BY

FLtr. #

DE ORDER # 5400.1

SECTION D DETERMINATION
CATEGORICAL EXCLUSION (CX) DETERMINATION - RFFO/CX09-95

Proposed Action: Phase II RFI/RI Site Characterization for OU4: Solar Evaporation Ponds.

Location: Rocky Flats Environmental Technology Site, Golden, Colorado.

Proposed by: U.S. Department of Energy, Rocky Flats Field Office.

Description of the Proposed Action:

Rocky Flats proposes to conduct field activities as part of the site characterization work in Operable Unit 4 (OU4), the Solar Evaporation Ponds, located in the northeast portion of the Industrial Area at Rocky Flats Environmental Technology Site. Up to fifty (50) new monitoring wells would be drilled for the Phase II RFI/RI (Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation). The RFI/RI is required by the Interagency Agreement to include draft baseline risk assessments and evaluations of the effectiveness of the Interim Measures/Interim Remedial Action (IM/IRA) implemented at OU4.

Significant portions of this work would be staged through a progressive interpretation, wherein knowledge gained in the field is immediately used to guide subsequent field work. A specific example is surficial geophysical testing, which would be used to locate bedrock channels and, thereby more effectively place drive points and monitoring wells. The existing monitor wells and surface water stations have been incorporated as much as possible into the development of the Field Sampling Plan for Phase II RFI/RI site characterization activities. Site characterization activities would be discontinued at the end of the OU4 Phase II RFI/RI Field Sampling Program unless stations and/or wells are incorporated into other continuing monitoring plans.

The project includes both intrusive activities such as drilling groundwater monitoring wells and boreholes, and nonintrusive activities such as surface water sampling and surface geophysical surveys. The majority of proposed activities would not take place in wetlands or other environmentally sensitive areas. Final drilling locations would be field checked and adjusted to avoid wetlands. A Wetland Assessment was conducted for this action and is presented in Appendix A.

Water Sampling and Geophysical Activities. Nonintrusive activities include the following: surface water sampling and flow monitoring, sediment sampling, surface and borehole geophysical surveys, and flow monitoring within the Interceptor Trench System (ITS). Typically, the establishment of sampling and monitoring stations does not involve soil disturbance, and heavy equipment or vehicles are not necessary to carry out the sampling program. The purpose of the surface water sampling, surface water flow monitoring, and sediment sampling is to determine the quality and quantity of surface water flowing onto and out of OU4. The data will be used to support the OU4 water balance and the Interceptor Trench System water balance calculations. The importance of storm water as a contaminant pathway will be assessed using this data.

Two surface water sampling locations would be established at seeps on the hillside north of the solar ponds to determine water quality. A small stainless steel bowl would be buried in each seep to collect a sufficient amount of water for sampling. Seven (7) automatic storm/surface water monitoring flow and sampling stations would be located in corrugated metal pipes or in ditches to collect surface water flowing onto and out of OU4. Some of these stations would require

Monitoring wells would be developed for groundwater sampling. Monitoring well development is the process by which the well drilling fluids and mobile particulates are removed from within and adjacent to newly installed wells. Well development would be conducted as soon as possible after well installation, but no sooner than 48 hours after grouting and pad installation are completed. An inertial pump or bottom discharge/filling bailer would be used in development activities.

Borehole Drilling Procedures and Sampling Methodology. Drilling equipment would consist of the drill rig, equipment truck, and portable geological laboratory. Disturbance to vegetation and soil would be minimal, approximately 200 square feet at each well site. Heavy equipment would use existing dirt roads except while at each proposed well site. Borehole drilling would be performed where possible with a sonic drill rig and with a truck-mounted hollow stem auger rig at the other locations. Sonic drilling has an advantage over conventional auger and percussion drilling because it allows continuous sample retrieval through cobbles and boulders. It uses a relatively high frequency oscillating drill head combined with downward pressure and low rotation to advance the drill string through unconsolidated and consolidated materials. It also has a rapid rate of penetration and produces little drill waste at the drill site, thereby eliminating waste and the need for waste disposal. Sampling runs using the sonic drill rig would be adapted to sample recovery conditions encountered in the field. Drilling with the hollow stem auger rig into Rocky Flats Alluvium would be done in 1-foot runs to maximize core recovery in cobbly material. Two foot runs would be used in bedrock. Continuous core would be collected for lithologic description and logged according to RFETS Operating Procedures. When feasible, the continuous coring method would be used to collect samples; drive sampling would be used when warranted by field conditions.

Samples collected for geotechnical analysis would be collected in 9-inch stainless steel sleeves, or as specified by the receiving laboratory. Soil samples would be collected from ground surface to total depth. To collect composite samples, the sample material would be placed in a safe location, out of direct sunlight, until the appropriate number of core samples have been collected. Soil and core samples would be removed to on site or off site laboratories for analysis of their constituents. Individual soil sample sizes would be small (e.g., pounds). Core sizes would generally be 1 1/2 inches in diameter and as long as the borehole is deep. Soil and core samples would be disposed of in accordance with applicable procedures and regulations.

Subsequent to sample collection, the exterior of the sample containers would be decontaminated and the containers placed in coolers lined with a plastic bag designated for sample transportation. Blue ice or its equivalent would be placed in each cooler. Official custody of samples would be maintained and documented from the time of collection until the time that valid analytical results have been obtained or the lab has been authorized to dispose of the sample.

All drilling equipment would be decontaminated prior to being taken to the work site. The drilling tools would be decontaminated between each monitoring well installation. The drill rig would be decontaminated after site characterization work is complete. Sampling equipment would be decontaminated between samples. Equipment would be inspected for evidence of fuel oil or hydraulic system leaks. If lubricants are required for downhole equipment, only pure vegetable oil would be used. All sampling equipment would be separated from the ground surface with clear plastic sheeting.

Well Abandonment. As noted previously, some of the proposed wells would be retained as post-closure monitoring wells (A-1, A-2, A-4, W-3, and W-4). The rest of the wells would be abandoned and capped at the completion of the OU4 Phase II RFI/RI Field Sampling Program. In addition to these wells, there are selected existing wells, piezometers, and vadose zone monitoring

boreholes (Figures 4 and 5) which require abandonment under the Phase II program in order to accommodate closure of the Solar Evaporation Ponds under the OU4 IM/IRA program.

To abandon a well, a truck mounted drill rig would be driven to each well site where access is favorable. The original 2-foot concrete pad would be removed manually. The rig would then be used to remove surface and well casings. The hole would be reamed to a diameter larger than the original hole to remove the annular materials in order to promote a good seal between the hole wall and the new grout that would be used to fill the hole.

At some locations within the Industrial Area, space to operate a drill rig is limited. Wells in this situation would typically be abandoned in place; that is, the casing would not be removed from the well. When the casing is left in place, a water tight cover is permanently fixed to the top of the casing. Whether the casing is removed or left in place, all wells would be filled with bentonite grout to ensure that potentially contaminated water cannot move between water-bearing strata via the well. A 2-foot square concrete surface seal and metal marker would mark the location of the abandoned well.

Cost and Schedule. The cost estimate for the site characterization work in OU4 is approximately \$4 million. Site characterization activities are scheduled to begin in early 1995 and last for 12 months.

Categorical Exclusion to be applied:

B3.1 Site characterization and environmental monitoring, including siting, construction, operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and operation of a small scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, and radar), geochemical, and engineering surveys and mapping, including the establishment of survey marks; (b) Installation and operation of field instruments, such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools; (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants; (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities, including assessment of potential wind energy resources; (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 35 CFR part 800 and 43 CFR part 7.

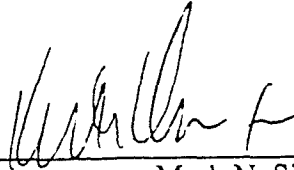
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CATEGORICAL EXCLUSION DETERMINATION — RFFO/CX09-95
Phase II RFI/RI Site Characterization for OU4: Solar Evaporation Ponds

I have determined that the proposed action meets the requirements for a categorical exclusion as defined in Subpart D of 10 CFR 1021. Therefore, I approve the categorical exclusion of the proposed action from further NEPA review and documentation.

Date:

Jan-25, 1995

Signature:



Mark N. Silverman
Title: Manager, Rocky Flats Field
Office

RFFO Project Sponsor: I have reviewed the project description for this proposal and concur with its accuracy and validity.

Date:

January 18, 1995

Signature:



Frazer R. Lockhart
Title: Director, Environmental
Restoration MSA Division

I have reviewed this determination and find that a categorical exclusion is the appropriate level of NEPA documentation.

Date:

January 17, 1994

Signature:



Patricia M. Powell
Title: NEPA Compliance Officer

FIGURE 1

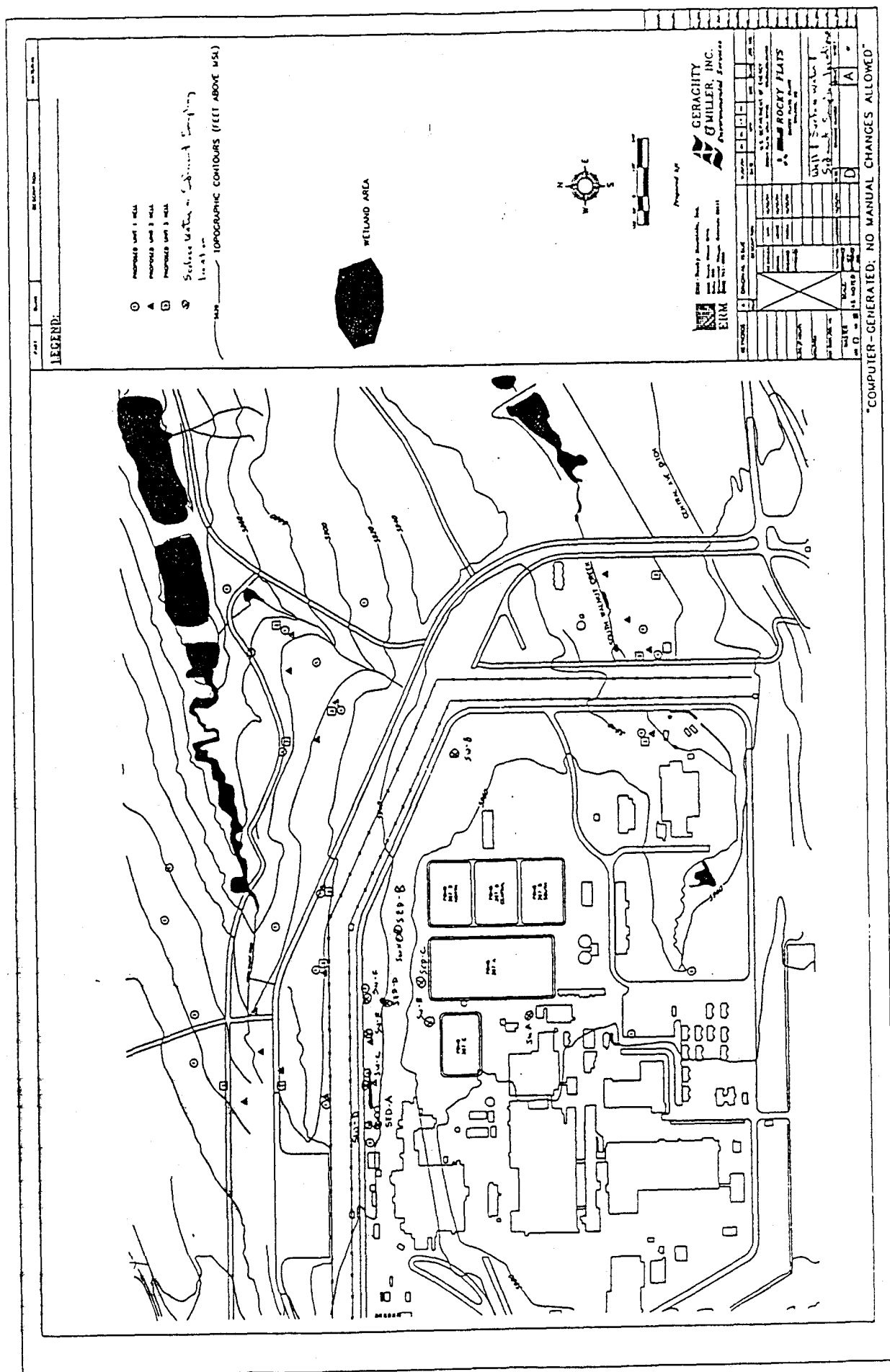


FIGURE 2
Geophysical
Survey Lines

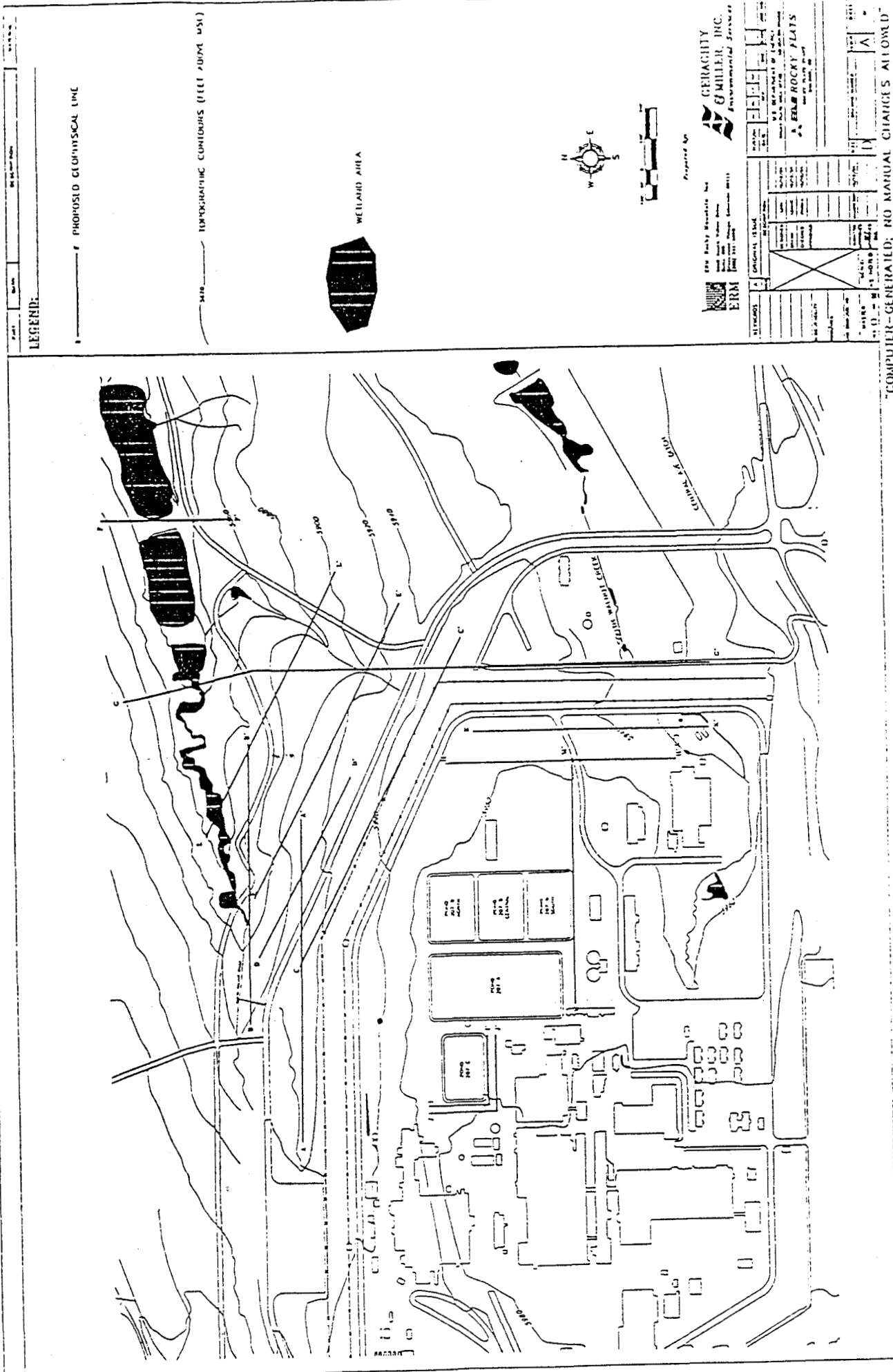
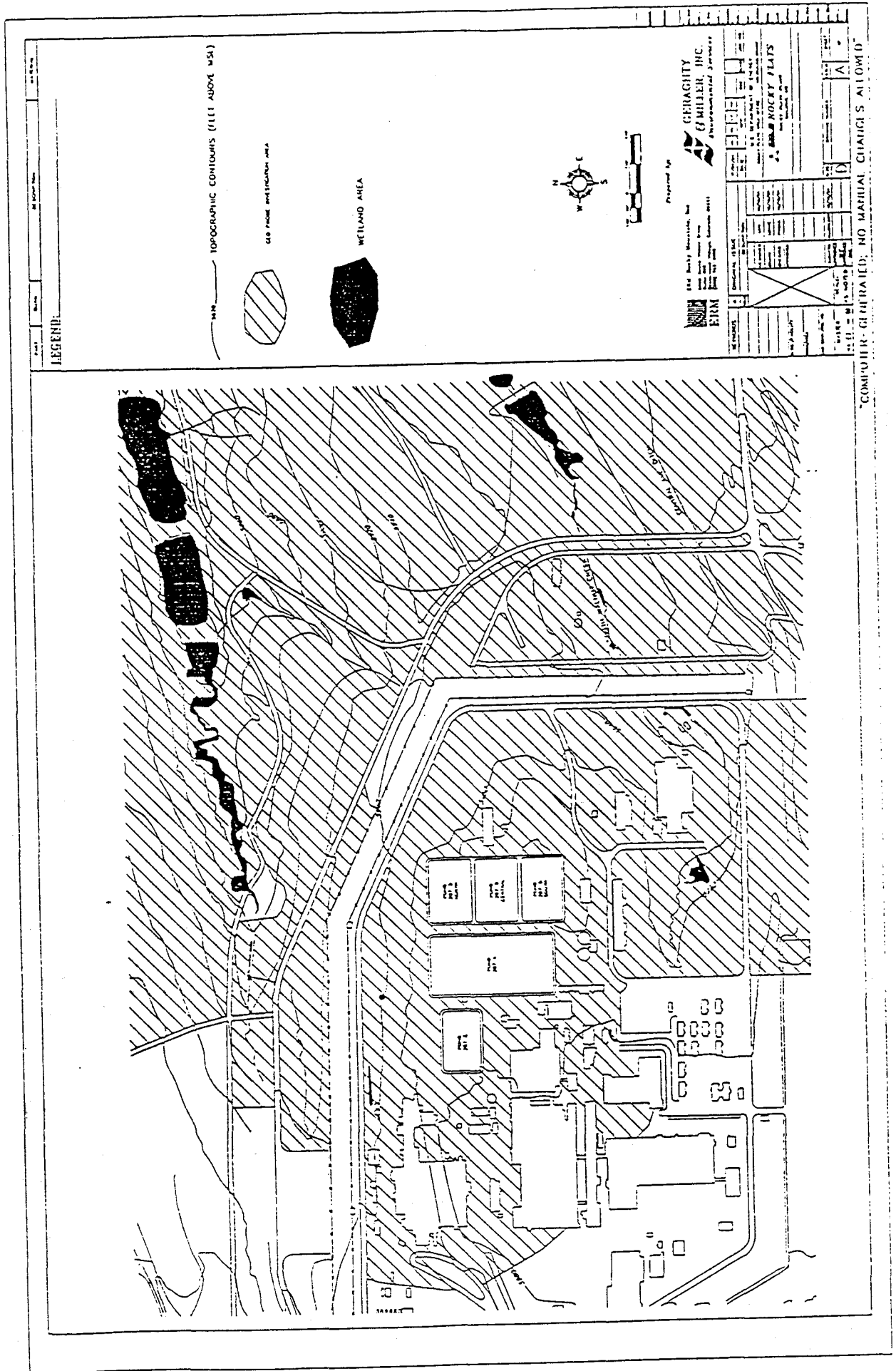


FIGURE 3
Geoprobe
Investigation Area
(excluding wetlands)



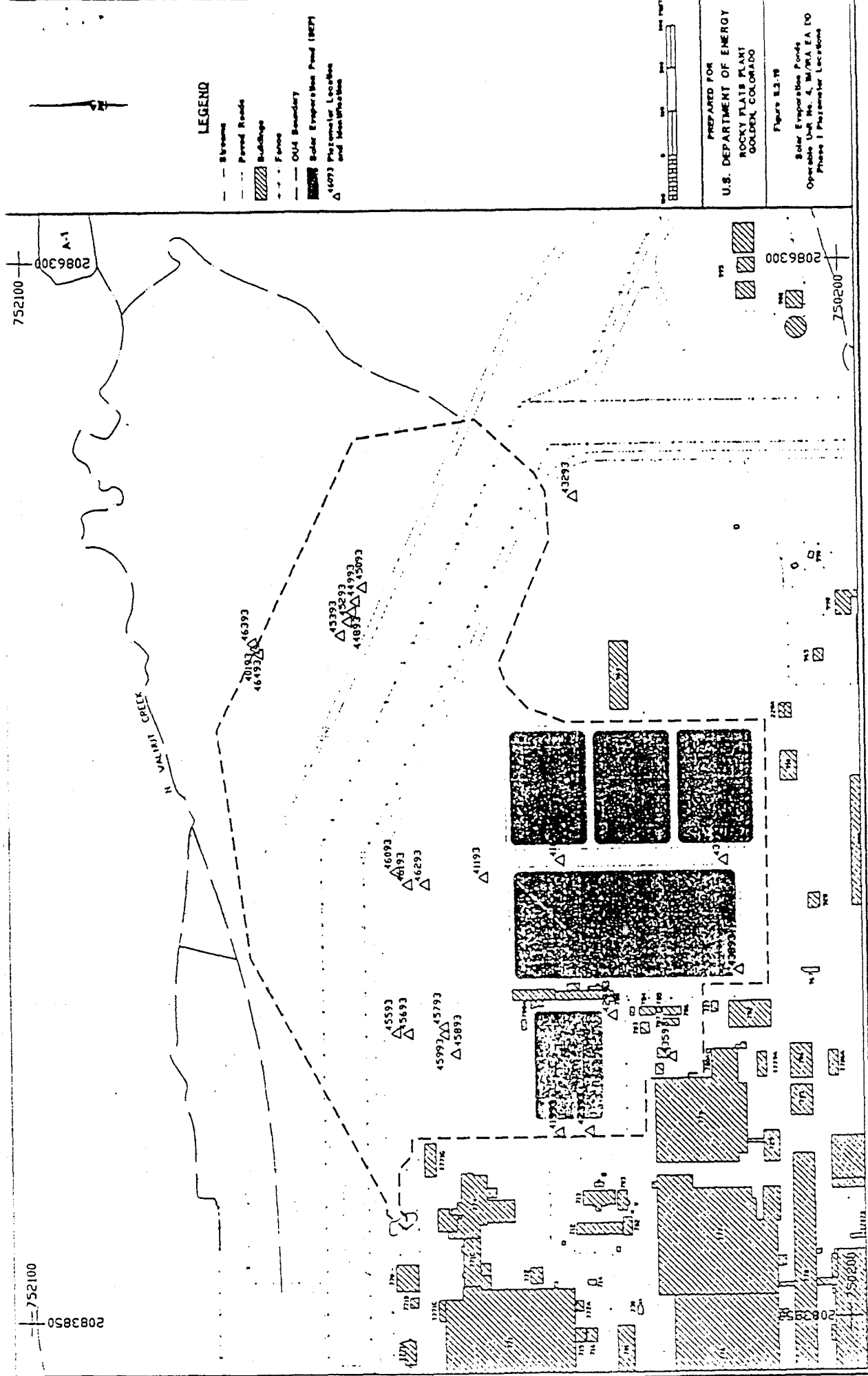


FIGURE 5
 Vadose Zone/Monitoring
 Wells
 Abandonment Locations

